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09/977,715	10/12/2001	David S. Allison	36159/098001; P5944	3306
32615 7590 03/18/2008 OSHA LIANG L.L.P./SUN 1221 MCKINNEY, SUITE 2800 HOUSTON, TX 77010				
EXAMINER ZHEN, LI B				
ART UNIT		PAPER NUMBER		
2194				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/977,715

Applicant(s)

ALLISON, DAVID S.

Examiner

Li B. Zhen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23, 26-30 and 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23, 26-30 and 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
Paper No(s)/Mail Date: _____

DETAILED ACTION

1. Claims 23, 26 – 30 and 33 – 40 are pending in the current application.

Response to Arguments

2. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 23, 26 – 30 and 33 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,131,183 to Tyler in view of U.S. Patent No. 6,842,898 to Carlson et al. [hereinafter Carlson, previously cited].**

5. As to claim 23, Tyler teaches the invention substantially including a method for communicating between threads [col. 5, lines 50 – 60], comprising:

invoking a first thread [ARC/INFO controller 44; col. 4, lines 3 – 13];

associating a first input stream and a first output stream with the first thread [system 42 is provided with two TTY data streams; a standard input "stdin" and a standard output "stdout", Fig. 6; col. 4, lines 47 – 55];

invoking a second thread [ARC/INFO program 28 as a child process; col. 4, line 65 – col. 5, line 4];

associating a second input stream and a second output [glues its stdin and stdout to "childWrite" and "childRead" respectively; col. 4, line 65- col. 5, line 4]; and

invoking a stream operator to write a first data value from the first thread to the second thread [controller 44 simply passes its stdin through its childWrite to the stdin of the ARC/INFO program 28; col. 5, lines 3 – 11], wherein the stream operator connects the first output stream to the second input stream [glues its stdin to "childWrite"; col. 4, line 65- col. 5, line 4] and sends the first data value from the first output stream to the second input stream [user program through childWrite to the stdin of the ARC/INFO program 28; col. 6, lines 10 – 20];

using the second thread to generate a second data value by performing an operation on the first data value [readStdin subroutine 60 calls the wakeup subroutine 64 which sends a command to the X-server 18 to delete the dummy window associated with the dummy GUI operation 50; col. 5, line 65 – col. 6, line 7]; and

invoking the stream operator to write the second data value from the second thread to the first thread [takes the stdout of the ARC/INFO program 28 through its childRead and passes it along to its stdout; col. 5, lines 3 – 11], wherein the stream operator connects the second output stream to the first input stream and sends the second data value from the second output stream to the first input stream [glues its stdout to "childRead"; col. 4, line 65 – col. 5, line 3];

wherein at least one selected from the group consisting of the first thread and the second thread manages an operating system process [With the Unix operating system it is simple to redirect stdin and stdout to the terminal emulator 26 or to a file or user program; col. 4, lines 47 – 55]. Although Tyler teaches the invention substantially, Tyler does not specifically teach the threads comprise a program counter, a stack, a state, and a register set.

However, Carlson teaches communication between threads [col. 4, line 63 - col. 5, line 5] and the threads comprising a program counter [a thread typically includes a program counter; col. 4, lines 42 – 64], a stack [stack; col. 4, lines 42 – 64], a state [thread can have one of several states; col. 4, lines 42 – 64], and a register set [register set; col. 4, lines 42 – 64].

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Tyler to incorporate the features of Carlson because this provides a method and apparatus for handling call backs on system events for a collection of related threads [col. 4, lines 42 - 64 of Carlson].

6. As to claim 26, Tyler teaches the second thread is a child thread of the first thread [col. 4, line 65 – col. 5, line 4].

7. As to claim 27, Tyler teaches at least one selected from the group consisting of the first input stream, the first output stream [col. 4, lines 47 – 55], the second input

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stream, and the second output stream is a standard stream [col. 4, line 65- col. 5, line 4].

8. As to claim 28, Tyler teaches the standard stream is directly built into a dynamically typed programming language [col. 2, lines 12 – 18].

9. As to claim 29, Tyler teaches associating a first error stream with the first thread [col. 5, lines 13 – 49 of Carlson].

10. As to claim 37, Tyler teaches the first thread and the second thread are associated with a single process [col. 4, line 65 – col. 5, line 4].

11. As to claim 40, Tyler teaches wherein the stream operator is a symbol [col. 4, lines 47 – 55].

12. As to claims 30, 33 – 36, 38 and 39, these are product claims that correspond to method claims 23, 26 – 29, 37 and 40; see the rejections to claims 23, 26 – 29, 37 and 40 above, which also meet these product claims.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

CONTACT INFORMATION

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on 571-272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li B. Zhen
Primary Examiner
Art Unit 2194

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